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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/051,417	01/17/2002	Bart R. Jones	44563A	9081

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THE DOW CHEMICAL COMPANY
INTELLECTUAL PROPERTY SECTION
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EXAMINER
RIDDLE, KYLE M

ART UNIT	PAPER NUMBER
3748	16

DATE MAILED: 05/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/051,417	JONES ET AL.	
	Examiner	Art Unit	
	Kyle M. Riddle	3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 April 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7,11-14,18-23 and 26-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7,11-14,18-23 and 26-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *21 January 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *15* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Response to Amendment

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-3, 11, 18-21, 26-32 are rejected under 35 U.S.C. 103(a), as being obvious over Mochizuki et al. (U.S. Patent 4,985,523).

Re claims 1, 11 and 18, Mochizuki et al. disclose multiple adhesive sealing compositions with multiple applications that include:

- an engine head and head cover (column 1, line 18);

- a joint between an engine head and a head cover (column 7, line 28);

- providing a seal with excellent heat resistance and oil resistance for use in internal combustion engines (column 7, lines 9-26).

Re claims 26, 28, and 30, as applied to claims 1, 11, and 18, respectively, above, Mochizuki et al. disclose an adhesive sealant with tensile strengths up to 40 kgf/cm^2 (approximately 568 psi) (column 7, lines 29-35).

Re claims 27, 29, and 31, as applied to claims 26, 28, and 30, respectively, above, Mochizuki et al. disclose the engine cover adhesive as cited above, and additionally disclose the use of silicone, acrylic, and rubber resin adhesives and suggests the use of like compounds (column 1, lines 16-24). Given this teaching, it would have been obvious to one having ordinary

skill in the art at the time of the invention was made, to have utilized the various adhesives of the applicant as suggested by Mochizuki et al., since the use thereof would have provided numerous selections and a wider variety of compositions for the purpose of securing an engine cover.

Re claims 3 and 19, the adhesive sealing compositions of Mochizuki et al. disclose several cure-on-demand techniques (lines 58-68, column 7).

Re claims 20 and 21, the adhesive sealing compositions of Mochizuki et al. disclose various adhesive methods to include irradiation and heat-curing properties (column 7, lines 1-8).

Mochizuki et al. fail to recite the functional language added to claims 1, 11, and 18, specifically "wherein the adhesive has sufficient cohesive strength to hold the valve cover in place during normal operating conditions." However, Mochizuki et al. disclose the adhesive has a holding strength up to 568 psi. One having ordinary skill in the art would have reasonably assumed that such holding strength would encompass the above functional recitation. Moreover, such adhesive qualities would negate the need for bolts (re claims 2 and 32) as a securing means to one of ordinary skill in the art.

3. Claims 4-5, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mochizuki et al., as applied to claim 26, above, in view of Santella (U.S. Patent 5,375,569).

Mochizuki et al. disclose engine head covers as cited above, however, fail to disclose the composition, method for securing the covers while curing, or the use of access ports.

Re claim 4, Santella teaches a valve cover (10) that can be fabricated from different materials to include thermoplastics (column 1, lines 60-64 and column 4, lines 26-29).

Re claim 5, Santella teaches a means for securing the assembly to aid in the bonding process (column 4, lines 14-18).

Re claim 7, Santella teaches a multiple access ports on top of the valve cover (Figure 2).

It would have been obvious to one having ordinary skill in the art at the time of the invention was made, to have utilized the teaching by Santella in the valve cover assembly of Mochizuki et al., since the use thereof would have provided a more versatile and effective valve cover assembly.

4. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mochizuki et al., in view of Santella, as applied to claim 4, above, and further in view of design choice.

Mochizuki et al., as modified by Santella, disclose engine head covers as cited above, however, fail to specifically limit the apparatus to a particular composition.

With regard to applicants claim directed to the composition of the valve cover consisting of nylon 6,6, nylon 6 or a mixture thereof with syndiotactic polystyrene, Santella suggests the use of thermoplastic resins, the claimed plastic would be encompassed thereby. Moreover, there is nothing in the record which establishes that the composition of such presents a novel of unexpected result (See *In re Kuhle*, 526 F.2d 553, 188 USPQ 7 (CCPA 1975)).

5. Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mochizuki et al., as applied to claim 28, in view of Santella.

Mochizuki et al. disclose engine heads and engine head covers adhesively bonded together using multiple techniques such as catalysts, irradiation, anaerobically curing, and heat-curing. It, however, fails to disclose the composition, method for securing the covers while curing, or the use of access ports.

Santella teaches that the cover can be composed of plastic or other materials, a means of securing the valve cover for curing purposes, and multiple access ports (see rejections for claims 4-5, and 7, under 35 U.S.C. 103(a), paragraph 3, above). It would have been obvious to one having ordinary skill in the art at the time of the invention was made, to have utilized the teaching by Santella in the valve cover assembly of Mochizuki et al., since the use thereof would have provided a more effective valve cover assembly.

6. Claims 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mochizuki et al., as applied to claim 21, above, in view of Santella.

Mochizuki et al. disclose engine heads and engine head covers adhesively bonded together using multiple techniques. It, however, fails to completely disclose how the mated surfaces should be made to maintain contact until completion of the bonding process.

Santella teaches the use of connecting the valve cover to the head with or without fasteners. It would have been an obvious to one having ordinary skill in the art at the time of the invention was made, to have utilized the teaching by Santella in the engine head covers of Mochizuki et al., since the use thereof would have provided a more effective or alternate means of fastening the engine heads to the engine head covers.

Response to Arguments

7. Applicant's arguments received April 15, 2003 have been fully considered but they are not persuasive.

8. The previously amended claims adding the limitation of a valve cover "wherein the adhesive has sufficient cohesive strength to hold the valve cover in place during normal operating conditions" or a "cohesive strength of 250 psi or greater" is not sufficient to overcome

the rejections of the cited references. Mochizuki et al. disclose adhesive compositions particularly suited for adhesion and sealing with excellent durability and suggested for use in valve covers with sufficient holding power up to 568 psi. Moreover, it would have been obvious to one having ordinary skill in the art that such engine covers would inherently have the adhesive strength to hold the cover in place during normal operating conditions. With reference to the applicant's claim of an adhesive strength of 250 psi or greater and the non-use of bolts for securing the cover, the Examiner disagrees and refers applicant to the rejection of paragraph 2, above.

9. Applicant argues the tensile strength test is not indicative of the adhesive strength to hold a valve cover in place and subsequently deletes this reference from claims 26, 28, and 30. An adhesive is in tensile loading when the acting forces are applied at right angles to the plane of the adhesive. The tensile strength of a bond is the maximum tensile load per unit area, required to break the bond expressed in pounds per square inch. However, applicant maintains in the disclosure that either lap shear mode or tensile mode tests can be used to indicate a cohesive strength to hold the valve cover in place during normal operating conditions (Amendment A, page 1, last two sentences). Further, Mochizuki et al. disclose adhesive compositions "particularly suited for adhesion and sealing" (column 7, lines 20-21) indicating a dual function, and a wide range of applications including "adhesion of planes, joining of various parts" (column 7, lines 55-56) disclosing the adhesive quality of the substances. Applicant further argues the "primary" function of Mochizuki et al. is for sealing, but ignores the disclosed adhesive qualities of several compositions. Lastly, the applicant argues that references to several compositions of Mochizuki et al. having good releasability qualities are evidence of lack of sufficient adhesive

strength for normal operations. Mochizuki et al. disclose multiple compositions having different properties with sufficient tensile strength (Tables 1, 3, and 4) and varying degrees of releasability, to include a composition that "exhibits insufficient releasability" (column 4, line 6), clearly indicating the diverse performance characteristics of multiple compositions.

Conclusion

10. The IDS (PTO-1449) filed on April 1, 2003 has been considered. An initialized copy is attached hereto.

Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kyle M. Riddle whose telephone number is (703) 306-3409. The examiner can normally be reached on M-F (07:30-5:00) Second Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Denion can be reached on (703) 308-2623. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9302 for regular communications and (703) 872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0861.

Kyle M. Riddle
Examiner
Art Unit 3748

kmr
May 27, 2003

THOMAS DENION
SUPERVISORY PATENT EXAMINER
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